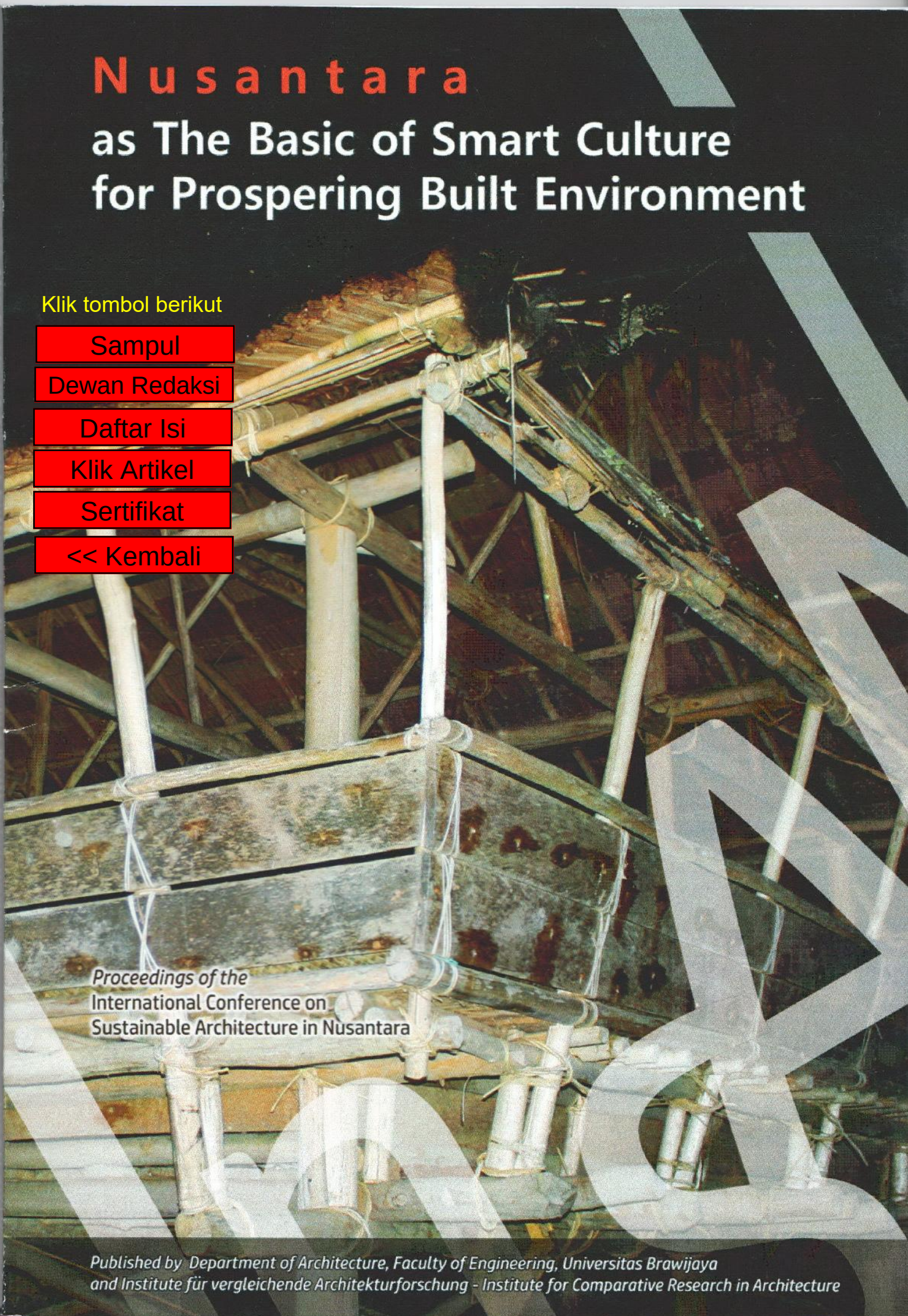
Nusantara
as The Basic of Smart Culture for Prospering Built Environment



Klik tombol berikut

Sampul

Dewan Redaksi

Daftar Isi

Klik Artikel

Sertifikat

<< Kembali

Proceedings of the
International Conference on
Sustainable Architecture in Nusantara

Published by Department of Architecture, Faculty of Engineering, Universitas Brawijaya
and Institute für vergleichende Architekturforschung - Institute for Comparative Research in Architecture

<< Kembali

InSAN 2017

Nusantara as the Basic of Smart Culture for Prospering Built Environment

Proceedings of International Conference on Sustainable Architecture in Nusantara (InSAN) 2017

Malang, 7-8 September 2017

Published by
Department of Architecture, Faculty of Engineering, Universitas Brawijaya
and Institut für vergleichende Architekturforschung –
Institute for Comparative Research in Architecture (IVA-ICRA)

<< Kembali

Nusantara as the Basic of Smart Culture for Prospering Built Environment

Proceedings of International Conference on Sustainable Architecture in Nusantara (InSAN) 2017

Malang, 7-8 September 2017

Chairman, InSAN 2017 Organizing Committee
Abraham Mohammad RIDJAL, ST., MT.

Reviewer
Erich LEHNER, Prof. Dr.techn. (TU Wien, Austria)
Ulrike HERBIG, Dr. (TU Wien, Austria)
Riken HOMMA, Dr. (Kumamoto University, Japan)
Mohd. Zin KANDAR, Dr. (Universiti Teknologi Malaysia, Malaysia)
Agung Murti NUGROHO, Ph.D (Universitas Brawijaya, Indonesia)
Susilo KUSDIWANGGO, Dr. (Universitas Brawijaya, Indonesia)

Editors
Andika CITRANINGRUM, ST., MSc. (Universitas Brawijaya, Indonesia)
Wasiska IYATI, ST., MT. (Universitas Brawijaya, Indonesia)
Yusfan A. YUSRAN, Dr. Techn. (Universitas Brawijaya, Indonesia)

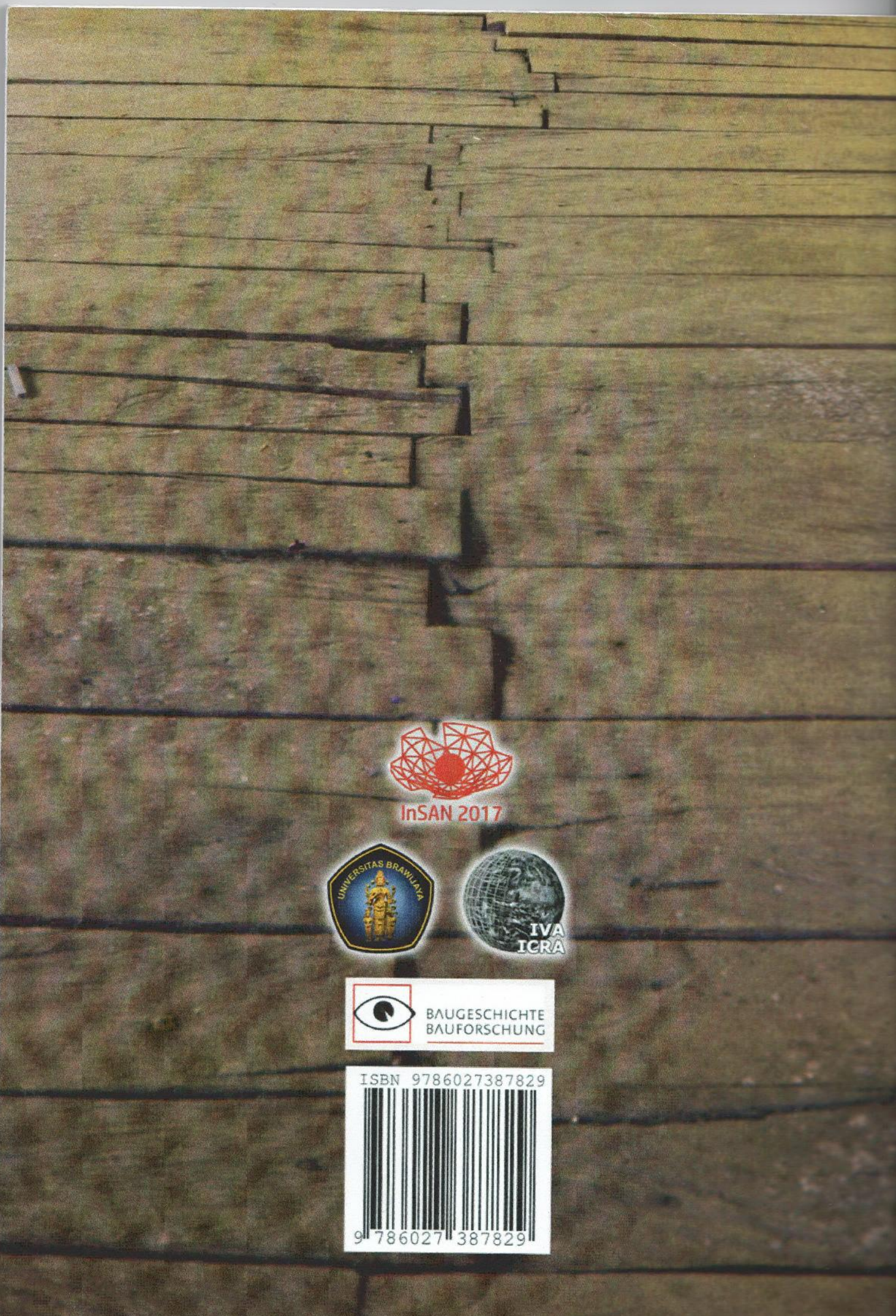
ISBN 978-602-73878-2-9

Copyright and Reprint Permission
All rights reserved. This book, or parts thereof, may not be reproduced in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system now known or to be invented, without written permission from the copyright owner.

©2018. Published by
Department of Architecture, Faculty of Engineering, Universitas Brawijaya and
Institut für vergleichende Architekturforschung – Institute for Comparative Research in Architecture (IVA-ICRA)

<< Kembali

CONTENTS



ISBN 9786027387829

<< Kembali

Green Technology Concept on Sensory Garden for Mental Disability at Sumber Dharma Extraordinary School

Irawan Setyabudi
Landscape Architecture Study Program, Tribhuwana Tunggadewi University, Malang, Indonesia
Email: isetyabudi.st@gmail.com

Rizki Alfian
Landscape Architecture Study Program, Tribhuwana Tunggadewi University, Malang, Indonesia
Email: rizkialfian87@gmail.com

Wahidyanti R. Hastutiningtyas
Medical Study Program, Tribhuwana Tunggadewi University, Malang, Indonesia
Email: abc_1yanti@yahoo.com

Abstract- Garden is an open space on the side of the building with potential development for soft and hard elements. Many people think that the remaining space is not well developed so it just impressed the building's complement. The study focus is on green open space design for disabled children in extraordinary schools, with locations in Sumber Dharma Extraordinary School (SLB) Malang. In these schools, children with autism have a sensory system disorder and are not adaptive to their environment, and the child's mental retardation is weak in learning. The role of open space can help students learning through experience-based outdoor learning process. Students can move on by learning and playing on theme parks: therapy and education. As a means of therapy can train the five senses and social relationships with others. The role of green technology can be educated to students to pay attention to their environment, such as using recycled materials for verticulture, storing rain water for watering plants, development of parks that invite birds and so on. The problem of this study is how to make concept of simple green technology that supports stimulus activities for children with autism so that the quality of life is better. The method of research is qualitative, while the analytical method refers from the theory of Gold and Hakim about architectural design. The objective of the study is to find recommendations for the design of sensory parks with green technology applications and the conclusion is a means of education, a garden with simple technology capable of recovering children with special needs in schools.

Index Terms: garden design, green technology, sensory park, outdoor learning.

I. INTRODUCTION

Currently the development of open space is being switched from open space to green open space, so that it has meaning. Green open space is an area where both plants grow naturally or intentionally planted. Aspects of open space utilization around the building as a garden, can be enjoyed visually and provide a calm atmosphere. This is related to the recreative function. The park also has a variety of other functions such as self-sustainable food resilience through urban farming on verticulture, in addition to aesthetic functions, education and healing. Verticulture is term of *vertical* and *agriculture*, which means planting efforts vertically that save space.

The use of yard for special needs garden is not simple. For disabled people which are distinguished into physical and mental disabilities, it has special treatment. This research has focuses on the use of simple green technology in exceptional school buildings that can be used for therapy for disabled students. The reason, the previous design has been no special treatment that helps recovery with outdoor therapy. Autism [1] can be defined as a character disorder with apparent symptoms of indifference to the surrounding environment, not interacting so as to feel its own world. Children with autism are sometimes difficult to communicate verbally and there is a tendency of abnormalities in sensory perception. The role of open space as a means of learning, playing, the means of therapy are needed for autistic students and provide a stimulus for a better life.

The influence of outdoor space as an educational garden on child development [2], that one form of learning is to provide experience, so that students more easily understand. An example is when subjects of natural science, students learn directly the physical form of plants. This aspect, the park serves as education. [3] Open space is often used as a children's playground with supporting facilities. Such activities include educative, in which the age of young children can be sensitive to stimuli from their environment. [4] The garden for children's education, able to evoke the cognitive, social, physical, and emotional skills needed as adults. The provision of facilities must necessarily be considered in terms of safety and security, such as the use of non-hazardous materials and plants.

As a therapeutic tool for students with autism and mental illness, the garden should provide a change benefit. The garden is developed by sensory concept or related to the five senses. The sensory system in the body [1] are vestibular, proprioceptive, visual, audory, tactile, gustatory, and olfactory. The most powerful element to have an effect is the sound because the child with autism

easily distracted by the sound of an object. [5] The concept of a sensory therapy garden for autism is divided into two part, there are hypersensitive and hyposensitive. Hypersensitive garden therapy with a circular form concept to control children who are always active in motion. The vegetation elements used are finely textured like sun plant *(Portulaca grandiflora)*, and the water is rhythmically low for a soothing effect. Meanwhile, hyposensitive is firm and wide enough to move. Elements of vegetation with a clear texture of asparagus and hairy balls flowers *(Gomphocarpus physocarpus)*. Water features used terraces, to stimulate more active.

Simple green technology can be applied for garden design to improve student learning. Green technology is an application of natural science around natural resources and manage the negative impacts caused by human activities. The goal is to increase awareness of the use of green technology so that natural resources can be used by future generations. This technology form is evidently found in verticulture, using simple materials such as used reuse materials, plants that can be consumed and replanted. Another example is a garden that can invite the arrival of birds with planting seed plants.

Primary data obtained in the form of photographs, interviews, sketches and site measurements obtained during the inventory process. The secondary data is supported from the internet regarding school profiles or access with google maps. The problem is how the application of simple green technology that can be applied to sensory parks in schools is extraordinary. Case study is choosen in SLB Sumber Dharma Malang, the reason is the location is in the city away from the center of the crowd with a calm atmosphere, potentially to develop the garden with a new concept because the previous park there is only a arrangement of pots and children's play area.

II. METHODOLOGY

The research was conducted by qualitative method with deductive and inductive description. Theory of design process [6] consists of preparation, analysis, synthesis, concept of development and planning. Another theory [7] also mentions that the process begins with the determination of the project, inventory, space programatics (stage of synthesis-analysis on site and user), concepts, pre-design to design development. In this article is limited to concepts for design recommendations.

This research started from inventory study or data collection of hardscape and softscape element as the primary data, in the form of interviews, photos, sketches and recordings. The analysis begins with the potential and constraints of the research object. The next analysis-the synthesis of potential and constraints of the physical location of the study as well as the determination of user needs, to find the concept. The results of this study is more on the development of the garden vertically with the approach of green technology as a means of therapy, due to limited land area. The results of this analysis are concept sketches and application of design components as the initial stage of the design.

People with autism [1] are patients with sensory information processing disorders due to abnormalities in the nervous system. If a normal person, the central nervous system processes all the information that comes from the five senses, then the autistic sufferer disturbs sensory information so that it can not adapt to the environment. The criteria of the design of simple green technology in sensory parks for children with autism include:

a. The material, using non-slippery pavement material, absorbs water and does no harm, and selects non-toxic, spiny and safe plants, and the softscape and hardscape elements that stimulate hyposensitive children and calm hypersensitivity children.
b. Completeness of the garden, available parks that train the motor, balance and coordination, and the presence of water features that stimulate hearing, touch, and calm

The concept of sensory garden criteria as an autistic child therapy is also described [5] regarding the selection of objects for sensory therapy:

a. Sense of taste, some plants have fruit that can be enjoyed immediately and stimulate the senses of taste ie oranges, tomatoes, and starfruit
b. The sense of sight, the use of pastel colors (light colors) obtained from the addition of white to the base color, makes the colors are not intimidating, used in the hardscape element
c. The sense of smell, the presence of scented plants such as lavender, alyssum, lily, rose, kacapiring
d. The sense of touch, the use of different materials texture on the flow of garden circulation
e. The sense of hearing, providing areas of birds chirping, such as lovebird and blackthroat.

Sensory garden for exceptional school students are also included in education theme. [8] The criteria of educational garden as follows.

a. The existence of educational space, which consists of observation area to provide education about the variety of types of vegetation and animals to children. This area includes passive activities because visitors just walk and observe.
b. Use of hard and soft elements. Hard elements in children use materials of nature or nature, such as wood and rocks. The adaptation of nature creates a natural impression and is in harmony with the environment. The primary selection of materials is non-toxic and safety for children. Soft elements are used by plants based on the vegetation function, either as shade, barrier or aesthetically. Shade vegetation with large canopy such as ketapang, border for example shrubs, while aesthetic like flowering plants or beautiful leafy.
c. There is a playroom. There are games that are accommodated in a garden that is physical game, creative, social, senses and tranquility.

III. RESULT & ANALYSIS

The case study of SLB Sumber Dharma is located in Jalan Jago Malang. The school building consists of 2 floors that have open space that is narrow enough to be developed as a park that has a variety of zones. The total land area is 576 m2 which is divided into building and garden area. Park at school is in the front and middle park. The front garden with a length of 17 meters and width of 4 meters, while the middle garden has a dimension of 14 meters long and 4 meters wide or 56 m2 area.

Figure 1. Location of SLB Sumber Dharma in Kecamatan Lowokwaru, Malang

According to the observation of the front garden is used as a play area, gardening and seating for parents who will pick up the child. The central garden is different from the existing park in front. The central garden for the students ceremony so that more needed free area, and there are plants in the shelves in front of the mosque and classroom. The arrangement of the front and middle gardens is not yet categorized and the average crop function is ornamental plants, which have less impact on the students.

There are many plants arround this existing garden. In front garden we will find puring (Codiaeum variegatum), dracaena *(D. cinnabari)*, Adenium *(A. obesum)*, coffee trees *(Coffea arabica)*, aloe vera, sapodilla *(Manilkara zapota)*, dragon fruit/ pitaya *(Hylocereus undatus)*, *Sansevieria hyacinthoides*, *Syzygium oleana*, Anthurium, Palm, *Curcuma xanthorrhiza*, orange, chilli, guava, and starfruit. The plants in the middle garden we will find the same kind of plant, but in little amount. There are interesting things in the middle garden, students began applying reuse of mineral water bottles for pots, with models such as hanging garden.

Figure 2. Image illustrations in front of SLB Sumber Dharma from Google Street View

Site Aspect

In terms of accessibility, the front gardens are easily accessible from outside the fence to get to the central building or park via a side street. Parents of students usually sit around while waiting for a break or go home. The front garden is rarely accessible to students because after coming directly to the classroom. Students more often access the middle garden because in addition to the way to the toilet and praying room is also used for ceremonial field. Circulation aspect, front garden provides linear rotary access while the middle park can be accessed from various directions. Aspect of vegetation, there is no garden grouping between shade plants, ornamental, border or steering, so it still seems to 'green' only. Aspect of the view or outward view into the tread, the garden is not visible directly from outside the fence because there are limiting plants that give the impression private, while the middle garden can be seen from the 2nd floor and surrounding classrooms.

User Aspect

Site users are limited to teachers, students, parents, students and guests. The front garden is a semipublic area that can still be accessed by parents while the middle park is private because it is only limited to teachers and students. Generally the park area is used in the morning until noon at certain hours such as before entering, at rest or from school.

The main users are students of various grade levels and are divided into several tuna, namely blind, deaf and autism. The theme of the park is aimed at children with autism but also for other tuna because the sensory garden is able to stimulate the five senses for therapy and education.

Figure 3. Parents also as Park users

Space Aspect

School garden is designed to support outdoor school activities. Plants grown can be horticulture in pots. The current model of the park as a limited land anticipation is the multilevel planting with verticulture and the arrangement of pots in stages.

Based on park criteria with the concept of sensory garden, Treatment is slightly different for hypersensitive autistic children (garden soothing) and hyposensitivity (garden that stimulates active motion). This park is actually not only accessible to children with autism alone but inclusion to all school residents.

The school front garden is semi-public, accessible to outsiders but limited to parents, students, teachers and guests. The front garden of the school is more suitable to be developed as a hyposensitivity park with a characteristic there is an active play area. This is because the hyposensitive students are less mobile and therefore require more activity, which is supported by the sensory area of therapy. A well developed facility is the area of slide, swing and free area to chase.

Figure 4. Playground area on the front garden

The middle school park is more private, only teachers and students can access it. Central park is more suitable to be developed as a hypersensitive park because it is located in the middle of the building so that the atmosphere is quieter without the crowd. The park is aimed at students with too much movement so there is a need for calm. The surrounding facilities are gazebo, fountain and cultivation area.

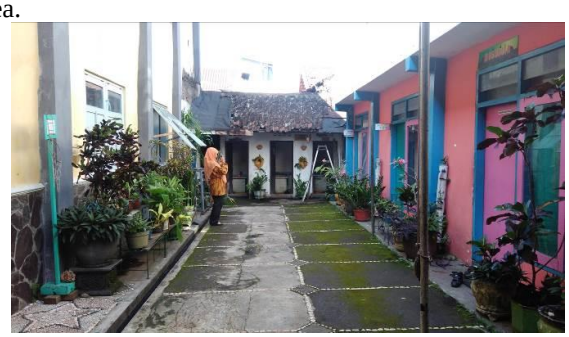


Figure 5. Middle garden area

In addition to the specificity of the design zone, facilities that can equally be developed include seating, a garden area with colors that stimulate the senses of vision, fragrant plants to stimulate the sense of smell, the area of ready-picked fruit trees to stimulate the sense of taste and birds chirping area To stimulate the sense of hearing. As for simple green technology applied with verticulture, the plant is developed with mustard pokcoy, green and red lettuce. Students gain learning in open space to plant, care for and harvest crops and create them for sustainability.

Figure 6. Example of verticulture ever applied with mustard pokcoy (left) and red lettuce (right)

Vertical development is suitable if the land is limited enough so that it is not possible development of conventional. In this school developed with the concept of a sensory garden that spends about 80-90% of its land for the sensory zone, the rest is developed vertically. Verticulture model other than by using pvc pipe vertically also can use the pot in stages according to the following picture.

Figure 7. Model of multilevel planting with pot arrangement

The basic concept of space

The results of this study refine from the concept that already existed, and park criteria as a zone of therapy and education obtained with the results of the above research. The basic concept of garden design for children with autism is obtained as follows:

a. The shape concept, the appropriate pavement pattern for hypersensitive children is organic pattern because it is quietly, while for hyposensitive children with angular pattern will increase the concentration
b. The concept of vegetation, following the needs of therapy. Ornamental plants with various colors for sight, horticultural plants or pickled fruits such as oranges and tomatoes for taste therapy, and aromatic plants such as lavender and jasmine to stimulate olfaction. As a reciprocal to the environment, the selection of vegetation types that can invite birds is quite important such as fruit crops: sawo kecik, srikaya, jackfruit, rambutan, jambu air, durian, starfruit. Ornamental plants: dadap merah, bunga kupu-kupu, sikat botol, frangipani, yellow bamboo, soka.
c. The concept of green technology, verticulture with urban farming can be as an educational area such as planting activity, care and harvest is called occupational therapy.

Here are the processed concepts on the front garden and the middle school garden.

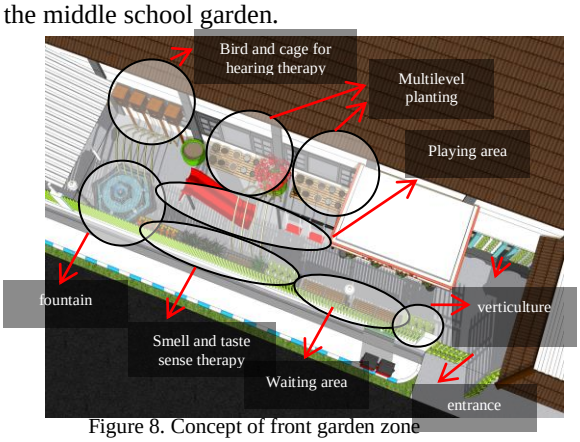


Figure 8. Concept of front garden zone

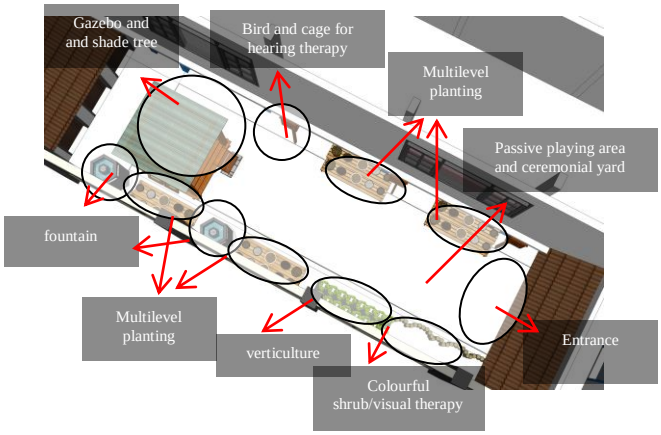


Figure 9. The concept of the middle garden

According to Mrs. Mifta, as principal and resource person, the front gardens are directed to the fruit and shade garden vegetation, while the central garden for vegetables and ornamental plants. Here is an example of the design of sensory parks and elements that support green technology.

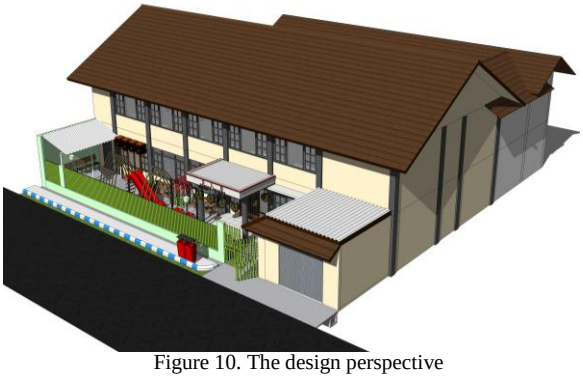


Figure 10. The design perspective

Figure 11. Front garden design perspective

Figure 12. Verticulture on the front garden

Recommendations of appropriate types of plants in the park are as follows:

No.	Latin Name	information
A	**Ornamental plants and shrubs**	
1	*Musaenda erytthrophylla*	Flowering
2	*Notophanaz scutelarium*	Leaf unique
3	*Bougenvillea glabra*	Flowering
4	*Rhododendron indicum*	Flowering
5	*Ixora javonica*	Flowering
6	*Crinum asiaticum*	Flowering
7	*Nerium oleander*	Flowering
8	*Cycas revolata*	Shaped unique
9	*Alamanda cartatica*	Flowering
10	*Codiaeum varigatum*	Colored leaves
11	*Caesalphinia pulcherima*	Flowering
12	*Chrysanthemum sp*	Colorful flowers
13	*Gomphrena globosa*	Colorful flowers
14	*Cordylin sp*	Red leaf
	Ground Cover	
1	*Axonophus compressus*	Rough texture
B	**Horticultura Plants**	
1	Averrhoa carambola	Plants in pots as a means of therapy
2	*Citrus aurantifola*	Plants in pots as a means of therapy
3	*Solanum lycopersium*	Plants in pots as a means of therapy
4	*Amaranthus sp*	Seasonal vegetable plants in pots as a means of therapy
5	*Carica papaya*	Plants in pots as a means of therapy
6	*Musa paradica*	Plants in pots as a means of therapy
7	*Zingiber officinale Rocs*	Plants in pots as a means of therapy
C	**Aromatic Plants**	
1	*Lavandula angustifolia*	Gives a scent
2	*Pandanus amaryllifolius roxb*	Gives a scent
D	**Shade Plant**	
2	*Jacaranda filicifolia*	Purple leaf color
3	*Tabebuia rosea*	Yellow leaf color
E	**Barrier Plants**	
1	*Acalypha wilkesiana*	Throughout the circulation area
F	**Steering plants**	
1	*Wodyetia bifurcata*	Steering side of the fence
G	**Verticulture Plants**	
1	*Brassica rapa L.*	verticulture
2	*Nasturtium officinale*	verticulture

The generalization of green technology description results in the study above are as follows:

a. SLB Sumber Dharma Malang is a school for mentally retarded children who need special treatment, which the role of education not only in the classroom but can use open space as a means of education. Green technology is achieved by the sustainability of the relationship between the park and the user.

b. The basic principle of garden design is the concept of sensory garden is the educational park for learning and therapy, which stimulates the five senses such as visual, hearing, smell, touch with the equipment or plants that can stimulate, support the

activity of walking, have lighting and sound natural, The design is clear and simple.

c. Vertical design is still conventional without more complicated systems such as hydroponics, aquaponics or wick systems because it is still the introduction of the culture for mentally retarded children.
d. Plants used are easy to find, develop, and short-lived so it can be seen clearly the turn of the cycle
e. Verticulture supports sensory parks, in addition to saving places can also be developed for horticultural crops or other crops but on condition is not woody or not heavy
f. In addition to verticulture, the elements used for the concept of green technology are the facilities of fountains and trees that invite the coming of birds, and banks of rain water fed water used to water the garden

IV. CONCLUSION

The role of school garden is very important when associated with learning. In extraordinary schools, parks also can be used for therapy and education. As a means of sensory therapy, students can improve the sensual acuity through visual, auditory, touch, taste and smell, so as to achieve certain focal points that do not spread. As the core of the concept explanation of green technology on the recommendation of SLB Sumber Dharma garden design is the application of vertical vegetable and fruit crops as occupational therapy. As a means of education and application of the concept of green technology, students are also trained to get to know more about the plants, to maintenance and harvest them so as to got direct experience with verticulture.

V. ACKNOWLEDGEMENT

Worship and praise to Allah SWT. who has given smoothness on this research activity. Neither the gratitude we say to the dean of the faculty of agriculture, Rizki Alfian as lecturer and gave agricultural aspect in this research, also whole Landscape Architecture lecturer in Tribhuwana Tunggadewi University, and last Wahidyanti RH who gave medical aspect in this research, along whole friends who participate in helping the completion of this study.

VI. REFERENCE

[1] Haliimah, M., Asikin, D., dan Razziati H. Taman Sensori pada Ruang Luar Autism Center di Kota Batu. (Online). (http://download.portalgaruda.org/article.php?article 13 April 2016)
[2] Ramadhani, W.S. "Penerapan Pembelajaran Outdoor Learning Process (OLP) Melalui Pemanfaatan Taman Sekolah Sebagai Sumber Belajar Materi Klasifikasi Tumbuhan Untuk Meningkatkan Hasil Belajar Siswa SMP". Jurnal Pendidikan Sains, 4 (3), 2016. pp. 1-7.
[3] Lauren, G.M. Desain Taman Lingkungan untuk Anak Usia Sekolah Dasar Di Cluster Callysta Permata, Perumahan Permata Bintaro, Tangerang Selatan. (online) http://repository.ipb.ac.id/handle/123456789/61159. 21 April 2017.
[4] Baskara, M.. "Prinsip Pengendalian Perancangan Taman Bermain Anak di Ruang Publik". *Jurnal Lanskap Indonesi*a, 3 (1), 2011pp. 27-34.
[5] Prabowo, B. A. Sensory Garden Sebagai Konsep Arsitektur Untuk Terapi Autisme. (Online). (http://blog.archadipa.com/index.php/2015/07/27/sensory-garden-sebagai-konsep-arsitektur-untuk-autisme/ 13 April 2016)
[6] Gold, S.M. Recreation Planning and Design. New York (US) : McGraw-Hill Book Companies, Inc. 1980.
[7] Hakim, R. Komponen Perancangan Arsitektur Lansekap : Prinsip-Unsur dan Aplikasi Desain. Jakarta : PT. Bumi Aksara. 2012.
[8] Mandagi, A.U.G. Perancangan Taman Edukasi Lingkungan Untuk Anak-anak di Situ Cikaret, Kecamatan Cibinong, Kabupaten Bogor. (online). http://repository.ipb.ac.id/handle/123456789/66082. Access on 21 April 2017.

Irawan Setyabudi, born in Blitar, May 30, 1986, is an architect at a private consultant, author and lecturer at the Tribhuwana Tunggadewi Landscape Architecture Study Program. Graduated Master of Built Environment Architecture of Brawijaya University (2012) with cum laude, and took the thesis with entitled Typology-morphology of architectural of jengki house in Malang city of Singosari and Lawang, he was also graduated from Architecture Department of Brawijaya University (2009), his thesis with entitled Adaptation of Dutch Colonial House to the Climate toward Tropical Humid Climate in Malang. Although he initially possessed research in the field of architectural preservation, he began to develop his research in the field of Landscape Architecture design since becoming a lecturer at Tribhuwana Tunggadewi University in 2013.
During this time active as an architect, writer and lecturer of Landscape Architecture. He is active in research funded by DRPM DIKTI with a multidisciplinary focus between Architecture, Agriculture and Health. The book ever written is 'Elements and Design Process of Residential Garden Architecture.

Rizki Alfian, born in Sidoarjo on 26 June 1987, is a permanent lecturer of landscape architecture of Tribhuwana Tunggadewi University with expertise from agricultural science with landscape planning specifications. Graduate from Magister of Bogor Agricultural University at 2015, his thesis with entitled 'Effect of Urban Forms on Micro Climate in Urban Neighborhood', while graduate from Tribhuwana Tunggadewi University landscape architecture with thesis of 'Candra Wilwatika Pandaan-Pasuruan Garden Design'
During this time also active in the profession of Landscape Architect and member of APALI (Association of Landscape Architecture Education Indonesia), in addition to teaching actively in Unitri starting in 2015. He is also active in research funded by DRPM DIKTI with the focus of planning science. In this article the greatest contribution to the study of plant science and planning.

Wahidyanti R. Hastutiningtyas, born in Malang, April 28, 1989, is a graduate of Faculty of Medicine Universitas Brawijaya in 2011, and is continuing his master's lecture in psychology nursing program of Universitas Brawijaya. (2017).
During this time active as a nurse and faculty of health sciences at Tribhuwana Tunggadewi University Malang. In this article she was contribute to the study of therapeutics in students with mental weakness and autism.

Dept. of Architecture, Universitas Brawijaya (Indonesia) in collaboration with
Dept. of History of Architecture and Building Archeology, Technische Universität Wien (Austria)

<< Kembali

InSAN 2017

CERTIFICATE

is awarded to

Irawan Setyabudi

as

Author

International Conference on Sustainable Architecture in Nusantara,
themed "Nusantara as The Basic of Smart Culture for Prospering Built Environment",
on 7th-8th September 2017, in Atria Hotel, Malang, Indonesia

IAI CUM 7

Dean Faculty of Engineering Universitas Brawijaya	Head of Dept. of Architecture Faculty of Engineering Universitas Brawijaya	Representative Technische Universität Wien	Head of Ikatan Arsitek Indonesia (IAI) Malang
Dr. Ir. Pitojo Tri Juwono, MT.	Agung Murti Nugroho, ST., MT., Ph.D	Ao.Univ.Prof. Dipl.-Ing. Dr.techn. Erich Lehner	Ir. Sahirwan, IAI

Yayasan Bina Patria Nusantara Malang
UNIVERSITAS TRIBHUWANA TUNGGADEWI MALANG
FAKULTAS PERTANIAN
Jl. Telaga Warna, Tlogomas, Malang 65144 - Indonesia, Telp. 0341 - 565500, Fax. 0341 - 565522
Program Studi : Agribisnis, Agroteknologi, Arsitektur Lansekap, Teknologi Industri Pertanian, Peternakan

SURAT PERINTAH PERJALANAN DINAS

Nomor : 5094 /TB.FP/TU–420/IX/2017

1.	Pejabat yang berwenang memberi perintah	Dekan Fakultas Pertanian
2.	Nama yang diperintahkan	Irawan Setyabudi, ST., MT
3.	Jabatan	Dosen Arsitektur Lanskap
4.	Maksud Perjalanan Dinas	Seminar Internasional Arsitektur berkelanjutan di Nusantara
5.	Tempat Tujuan	Hotel Atria Malang
6.	Lamanya Tugas : Hari / Tanggal berangkat Hari / Tanggal kembali	2 (dua) hari. Kamis, 7 September 2017 Jumat, 8 September 2017
7.	Pengikut	-
9.	Pembebanan Biaya	-
10.	Keterangan Lain Dianggap Penting	-

Telah Datang

InSAN 2017

Dikeluarkan : Di Malang
Pada tanggal : 5 September 2017
Dekan,

Dr. Ir. Widowati, MP
NIP. 19650824 199302 2 001